Seagrass-Watch e-Bulletin

Le Morne, Mauritius

31 December 2021

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IN THIS BULLETIN

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NEWS

Significant new seagrass beds found on Donegal coast (Ireland)

31 December 2021, News Highland

Highlights of Coastwatch's Autumn Survey have shown that important new seagrass beds have been discovered on the North Donegal coast. That was one of the positives highlighted in the interim document, along with a marked reduction in marine litter such as drink cans and plastic bottles. On the negative side, there's been an increase in the number of face masks and bags of dog poo discovered along the coast, as well as more use of plastics in the aquaculture sector, with a number of single use cable ties found in Lough Foyle.

This was the second autumn shore survey since COVID struck and both years the volunteer response in the RoI has been the highest in a decade. After cleaning data, that is stripping out duplicates and inaccessible shores, we were left with 710 survey sites, or 360 km of island of Ireland coast reported on by citizen scientists.

Citizens discovered over 200 acres of *Zostera* beds which had not been previously recorded on any official data base. These are dotted around our coast from a tiny new *Zostera noltii* bed in Fingal, to a string of *Zostera marina* meadows in south Wexford, Bantry Bay Cork, mid Kerry around Fenit and in mid Clare. A lost *Z marina* patch near the Aquarium in Galway Bay reappeared and there were several new beds found along the North Donegal coast. The intertidal *Z noltii* lawns, which the EPA monitors - many have expanded and looked healthier than in recent years, though that was not universal.

more……https://www.highlandradio.com/2021/12/31/significant-new-seagrass-beds-found-on-donegal-coast/

Related article

'Poo bags' and face masks now common among coastal litter (31 December 2021, The Irish Times)

https://www.irishtimes.com/news/environment/poo-bags-and-face-masks-now-common-among-coastal-litter-1.4766166

Dead dugong calf found along Dahican Beach (Philippines)

30 December 2021, SUNSTAR

A young female dugong was found lifeless along the shores of Dahican Beach in Mati City, Davao Oriental on December 25. Based on initial assessment, the dugong is approximately one to three months old based on body weight and status of teeth. The carcass is also said to be fresh and has shallow scratches, but the cause of death is still to be determined via necropsy.

“I cannot really point out what happened to this baby, but dugong this young is very vulnerable to many factors, such as predators and it needs to be taken care of by its mother,” said Amy Guanco-Ponce, zoologist from Davao Oriental State University. Ponce said the young dugong may have been separated from its mother due to strong waves, predators and disorientation.

The zoologist also said the current status of dugongs in Mati City are vulnerable due to tourism activities and decrease of grazing areas; however, dugong deaths in the area remain rare.

more……https://www.sunstar.com.ph/article/1916827/davao/local-news/dead-dugong-calf-found-along-dahican-beach

Slow but steady progress for seagrass restoration project (Bermuda)

29 December 2021, The Royal Gazette

Efforts to restore the island’s seagrass beds have made slow but steady progress. According to the winter edition of the Department of Environment and Natural Resource’s (DENR) Envirotalk newsletter, measures to protect seagrass from grazing turtles has allowed them to start to recover. But the Marine Conservation Section (MCS) of the DENR said that more work must still be done to ensure seagrass environments survive in the long-term.

Last year, several initiatives were announced to safeguard the island’s seagrasses, which had been hard hit by a growing number of juvenile green turtles visiting the island. In September 2020, DENR partnered with the West End Development Corporation to block turtles from the lagoon on Ireland Island to help the seagrass in the area bounce back. While the seagrass in the lagoon has to grow a lot more to become the dense meadow it was in 2017 before the turtles began to feed on it, it is beginning to recover now the turtle grazing pressure has been removed.

The newsletter also said the MCS sought to protect other areas of seagrass by installing mesh cages over them to limit turtle grazing. “The cages protect the seagrass from further grazing. This allows the seagrasses to regenerate, albeit slowly, and with time some of the essential ecosystem functions they provide will be restored. Eventually, when the balance of Bermuda’s marine ecosystem is restored to where we have healthy populations of turtle predators, especially sharks, the seagrasses in these caged areas will grow out from under the cages to independently colonise seabed areas that are environmentally suitable for seagrasses. The MCS reported that in some areas, seagrass outside of the cages had been able to bounce back as quickly as that inside, but it also noted that there had

anecdotally been fewer turtles seen in Bermuda's waters. When the balance in our marine ecosystem is restored and the green turtles and seagrass can coexist, the seagrass restoration cages can be removed."
more…….https://www.royalgazette.com/environment/news/article/20211229/slow-but-steady-progress-for-seagrass-restoration-project/

Specific Spanish government funding for Posidonia conservation (Spain)

29 December 2021, Majorca Daily Bulletin

In 2022, the Spanish government will make its first specific financial contribution to the conservation of *Posidonia* sea grass in the Balearics - one million euros. The regional environment minister, Miquel Mir, explains that the state has responsibility for marine matters, "but its contribution has historically been zero". This has been despite a Balearic insistence, not only for *Posidonia* but also for nacra and cetacean conservation.

For terrestrial biodiversity, the Balearics will receive 4.7 million euros to be used to adapt forest management to climate change, for the control of invasive species, to prevent birds colliding with power cables and to improve signage in natural areas. "Now, there is also the government's commitment to territorialise funds for marine biodiversity."
more…….https://www.majorcadailybulletin.com/news/local/2021/12/29/95081/spanish-government-funds-for-balearics-posidonia-conservation.html

Will release 24% of the CO2 accumulated in 2050 (Spain)

29 December 2021, CVBJ Biz

The Spanish underwater grasslands accumulate 227 million tons of blue carbon and its monetary value rises to 8,634 million euros, approximately 0.7% of Spanish GDP. 82% of carbon storage and sequestration by seagrasses is found in protected areas of the Natura 2000 Network. But they are in decline: in the most probable scenario, Spain will lose 24% of the carbon stored in these ecosystems by 2050. And the economic impact of these losses will be equivalent to 17,974 million, 1.6% of Spanish GDP.

These are the accounts that have been made by five researchers from the Autonomous University of Madrid (UAM) and the Rey Juan Carlos University (URJC), Alberto González-García, Marina Arias, Susana García-Tiscard, Paloma Alcorlo and Fernando Santos-Martín, authors of the article 'National evaluation of blue carbon in Spain through inVEST: current status and future prospects', which has just been published'. "Coastal and marine ecosystems provide multiple services on which human well-being largely depends, point out the researchers, who have mapped and evaluated the current and future capacity of seagrasses (*Posidonia oceanica, Cymodocea nodosa, Zostera noltii, Zostera marina* and *Halophila decipiens*) to store and sequester blue carbon in Spain, as well as its implications economic. This is the first time that the amount of CO2 retained by seagrass beds has been mapped and scientifically researched.

The study area covered more than 758,000 square kilometers and was divided into four demarcations: Canary Islands (64%), Western Mediterranean Sea (31%), Alboran Sea (3%) South Atlantic (2%). The main conclusion is that the loss of marine biodiversity is "increasingly affecting the ocean's ability to provide essential ecosystem services for human well-being. With the aggravation that the loss of coastal and marine ecosystems "will be further increased by climate change". "However, future scenarios show that the Natura 2000 Network is not enough to conserve seagrasses, so it will be necessary to apply specific management strategies, add the Spanish scientists.
more…….https://cvbj.biz/will-release-24-of-the-co2-accumulated-in-2050.html

Using seagrass instead of seawalls to keep our shorelines where they are (QLD, Australia)

28 December 2021, Phys.org

As rising sea-levels threaten coastal communities, people have turned from costly infrastructure to seagrass for coastal defense. But most research has stuck to testing similar coasts, grasses and soils. Dr. Alice Twomey (The University of Queensland) and her colleagues have discovered features about a previously untested seagrass that will be important for erosion work.

"If coastal managers want to include seagrass meadows in their erosion mitigation strategies, we need to know which species will reduce erosion in what areas to get the most benefit and value for money from the project," says Dr. Twomey. The untested seagrass species, with its unique root structure, did not in fact reduce erosion as expected. This work will help coastal managers better prioritize restoration methods for our coastlines.

Associate Professor Katherine O'Brien says that "a better understanding of how green infrastructure works is important for sustainable development" into the future. Dr. Twomey emphasizes that despite the 'negative' result for the seagrass, this is "the next step towards understanding the limitations of specific seagrass species for stabilizing sediments."
more…….https://phys.org/news/2021-12-grey-green-seagrass-seawalls-shorelines.html

"Guardians of the Sea" pursue success achieved with REN's AGIR Award with the "Guardians of the Prairies" (Portugal)

27 December 2021, MarketScreener

Protecting the marine prairies of the Sado Estuary, through the active participation of women from the local fishing community, turning them into true "Guardiãs do Mar" (Guardians of the Sea), was one of the projects honoured by the AGIR Prize in 2018. "The Prize enabled Ocean Alive to carry out the pilot project of the "prairie monitors", thus creating a new profession for the fisherwomen of the Sado estuary", explained Raquel Gaspar, biologist, and co-founder of Ocean Alive. The project sought to train two fisherwomen from the Sado estuary, the Sea Guardians, to map marine prairies. The training consisted of the acquisition of knowledge on the use of a GPS and the procedure of contouring seagrass patches, while taking advantage of the fisherwomen's empirical and ecological knowledge.

And the project is proving to be a success. From two, it was increased to five "Guardiãs do Mar", which made it possible to map the vast majority of the marine prairies in 2019 and in 2020, with the support of a scientific team from the Centre for Marine Sciences of the University of Algarve (CCMAR - Centro de Ciências do Mar da Universidade do Algarve). 122 hectares of marine prairies were mapped, and a map of the location of marine prairies in the Sado estuary was created.

In addition, "the new profession has brought an income complementary to fishing for the fisherwomen. And the mapping became a kind of safe conduct for the protection of the marine prairies, which guarantee local fishing", explained Raquel Gaspar. "Making the mapping of marine grasslands available to local entities responsible for managing natural values has allowed certain grasslands to not be destroyed by other human activities", she added.
more……https://www.marketscreener.com/quote/stock/REN-REDES-ENERGETICAS-N-55468/news/REN-Redes-Energeticas-Nacionais-SGPS-S-A-Guardians-of-the-Sea-pursue-success-achieved-with-REN-s-37431915/

UK scientists lead global study to replace seagrass beds to fight climate change (Wales, UK)

22 December 2021, The National

British scientists are leading an international study to replace vital seagrass beds to help combat climate change. A team at Swansea University has worked with the University of Portsmouth and the Zoological Society of London to publish a guide on seagrass restoration.

At least 44 per cent of the UK's seagrass has disappeared since 1936, 39 per cent of which has vanished within the past 30 years. "Their restoration can now play a part in a much-needed response to fighting the climate emergency and the biodiversity crisis," said the study's lead author, Dr Richard Unsworth, of Swansea University. "The creation of this handbook, with leading contributions from many staff, students and alumni from biosciences, reflects almost a decade of Swansea seagrass research in the UK and globally." The Seagrass Restoration Handbook was commissioned by the UK Environment Agency.

Dr Joanne Preston, of the Institute of Marine Sciences at the University of Portsmouth, said action to restore the beds was needed urgently. "Now is the time for action; we can't delay any longer the restoration of marine ecosystems on which humans depend, yet have largely destroyed," she said. "I hope this handbook will inspire and equip groups around the UK and beyond to get involved in restoring seagrass ecosystem and the wonderful biodiversity associated with them."
more……https://www.thenationalnews.com/world/uk-news/2021/12/21/uk-scientists-lead-global-study-to-replace-seagrass-beds-to-fight-climate-change/

Conservationists have filed a lawsuit against the Environmental Protection Agency (FL, USA)

21 December 2021, The Washington Newsday

Conservationists have filed a lawsuit against the Environmental Protection Agency (EPA) over a record number of manatee deaths. In 2013, 830 manatees perished in Florida, setting a new record for manatee deaths. This year, over 1,000 manatee deaths in the state as of November, according to Earthjustice, a non-profit environmental litigation organization, and accounts for 12% of all manatees in Florida.

According to the organization, malnutrition was responsible for a large number of deaths this year. The algal blooms that devastated the seagrass that manatees rely on for sustenance were "driven" by water pollution. Authorities even allowed the rare step to feed the manatees earlier this month, despite the "extraordinary death incidence." The Center for Biological Diversity, Save the Manatee Club, and Defenders of Wildlife issued a 60-day notice to the EPA for violations of the endangered species act for "failing to reinitiate consultation concerning the unusual mortality event for manatees in the Indian River Lagoon," according to the statement. The groups claimed that the lagoon's water quality regulations were inadequate, allowing contaminants such as fertilizers and sewage to enter. This garbage is ultimately responsible for the extinction of the vital seagrass.

Before the groups file a lawsuit, the agency has 60 days to respond to the charges in the letter. “It’s brutally evident that Florida isn’t doing enough to regulate the sewage and fertilizer pollution wreaking havoc on the Indian River Lagoon,” Earthjustice attorney Elizabeth Forsyth said in a statement. “For the sake of the manatees and all the other wildlife and people who rely on Florida’s waterways, it’s time for the EPA to step in and enforce the Clean Water Act.”
more…….https://washingtonnewsday.com/science/conservationists-have-filed-a-lawsuit-against-the-environmental-protection-agency-epa-over-a-record-number-of-manatee-deaths/

Related article
Conservation groups to sue EPA over manatee deaths (20 December 2021, The Washington Post)
https://www.washingtonpost.com/politics/conservation-groups-to-sue-epa-over-manatee-deaths/2021/12/20/c6147d0e-61c2-11ec-9b51-7131fa190c5e_story.html

And action! Cape York community projects underway (QLD, Australia)

20 December 2021, Newsport Daily

Water, seagrass and turtle monitoring, beach protection and cultural heritage management are among the exciting new community projects being rolled out on Cape York to safeguard the marine environment and Great Barrier Reef. The projects were identified by the South-east Cape York Reef Community Action Plan (CAP), created following workshops held by Cape York Natural Resource Management 12 months ago.

They are now approved, funded and underway. The projects include beach protection at Balabay (Weary Bay); water quality, seagrass, and turtle monitoring in Hope Vale; and the development of a country and cultural heritage management system for Binthi country.

Over the next two years, Cape York NRM, as a CAP Leader, will provide implementation support; collaborate with other regional CAP leaders; review and update the CAP to identify new priorities and projects; work to secure additional project funding; engage with young people; and host community events.
more…….https://www.newsport.com.au/2021/december/and-action-cape-york-community-projects-underway/

Hexagon’s R-evolution expands its sustainability agenda to help protect coastal blue carbon ecosystems (The Bahamas)

16 December 2021, Directions Magazine

Hexagon AB, a global leader in digital reality solutions, today announced R-evolution’s efforts to map the threatened seagrass meadows of the Caribbean islands, beginning with the coastal waters of the Bahamas. In collaboration with Beneath The Waves, R-evolution is leveraging Hexagon’s airborne bathymetric LiDAR technologies to detect, map and capture critical details about this vital habitat, including its extent and composition.

As part of a long-term shark monitoring project to study and protect the oceans, Beneath The Waves discovered that tiger sharks spend a large portion of their life patrolling and foraging dense seagrass meadows. A combination of sensor tagged sharks, satellite data, marine vessel surveys and scuba divers drove the ongoing discovery and mapping of the extensive seagrass meadows of the Caribbean. But to protect and restore these blue carbon sinks, the findings must be validated with high positional accuracy and datasets that can provide efficient, year-on-year change detection and monitoring.

R-evolution is helping Beneath The Waves validate their findings by deploying survey aircraft geared with one of Hexagon’s airborne bathymetric LiDAR solutions, the Leica Chiroptera 4X. The airborne bathymetry solution enables the cost-effective, rapid survey of large areas—accurately mapping thousands of square kilometres of seabed habitats at up to 30 metres water depth in just a few days. The high-resolution point clouds and aerial imagery will allow Beneath The Waves to scale up their marine research.
more…….https://www.directionsmag.com/pressrelease/11255

Blue carbon grants for native species (Australia)

16 Dec 2021, Mirage News

Critical habitat for marine species such as turtles and dugongs will be restored as the Morrison Government leads an international push to show how blue carbon projects can reduce greenhouse gasses and create healthier coastal environments. Minister for the Environment Sussan Ley said that under the Morrison Government’s $30.6 million Blue Carbon grants program $9.5 million is being made available to restore degraded mangrove, tidal marsh and seagrass ecosystems at a minimum of four demonstration sites around the country.

“Through the Blue Carbon Ecosystem Restoration grants we will identify projects to help us demonstrate effective ways to measure Blue Carbon benefits. These will be used to attract greater investment in Blue Carbon projects both here and overseas,” Minister Ley said. “Environmental Economic Accounting (EEA) will be applied across the grant projects to show the financial value gained from fishing, tourism and coastal protection, as well as biodiversity and carbon benefits.”

The grants and environmental-economic accounting activities are part of the $30.6 million blue carbon conservation, restoration and accounting program, which is also funding projects in countries outside of Australia through the Blue Carbon Accelerator Fund.
more…….https://www.miragenews.com/blue-carbon-grants-for-native-species-695439/

DES plea: 'Go slow for those below' (QLD, Australia)
16 December 2021, Gympie Today

With summer in full swing and plenty of boaties taking advantage of our waterways this holiday season, the Department of Environment and Science say it's a timely reminder to 'go slow for those below'. "There is a range of marine life co-existing under the water, and if you go too fast, you'll potentially endanger the lives of native animals such as turtles and dugongs," a DES spokesperson said. "A boat's propellor can cause serious, and sometimes fatal, injuries to a turtle or dugong."

Rangers are expecting to see an increased amount of traffic on our waterways over the Christmas holidays and are urging boaties to reduce their speed in estuaries, sandy straits, shallow inshore areas and reef flats, and to avoid shallow seagrass meadows if possible.

Skippers travelling through 'go slow' areas must operate their boats 'off the plane', and must not operate boats in a manner or at a speed that would reasonably be expected to result in striking a turtle or dugong. Anyone who comes across injured, stranded or dead marine wildlife should report it by calling 1300 130 372.
more…….https://gympietoday.com.au/news/2021/12/16/des-plea-go-slow-for-those-below/

Why is seagrass washing up on the shores? (New Zealand)
16 December 2021, SunLive

The mysterious substance that has washed up along Coromandel beaches this week has been identified as dead seagrass. The seagrass has littered numerous beaches in the Coromandel and has also been seen along the beach in Arataki. University of Otago Department of Marine Science Research Associate Professor Ceridwen Fraser and Lecturer Dr Robert Smith explain why this strange occurrence may be happening.

Ceridwen says the strands are definitely plant material and are probably *Zostera* seagrass, also known as eel grass, which is not a seaweed but a true flowering plant. "*Zostera* sheds its leaves after winter, usually between October and December in New Zealand, and when there are large seagrass meadows, that can mean a lot of seagrass leaves washing up on shore all of a sudden.

Robert says the strands could be attributed to the coastal waters around the North Island of New Zealand currently experiencing a strong "marine heatwave". "A marine heatwave is an extended period of extremely warm ocean temperatures. Waters offshore of the Coromandel Peninsula have been in a marine heatwave since early November. Temperatures recently peaked at 21°C on December 9, 2021, which is 3°C degrees above average for the time of year. "Field observations collected following marine heatwaves that have lasted several weeks elsewhere in the world have detected severe seagrass die-off, including in Western Australia, the Mediterranean and the Baltic Sea.
more…….https://www.sunlive.co.nz/news/283264-why-is-seagrass-washing-up-on-shores.html

Seagrass is not a miracle solution against climate change (FL, USA)
15 December 2021, Phys.org

Through the resettlement of seagrass meadows on the coasts, large amounts of carbon dioxide from the atmosphere are to be removed in the future to combat climate change. However, seagrass meadows can, under certain conditions, release more carbon dioxide than they absorb. As biogeochemist Dr. Bryce Van Dam from the Helmholtz-Zentrum Hereon has now been able to demonstrate, the fight against climate change by recultivating seagrass meadows is nevertheless not as simple as experts previously thought. Some seagrass meadows release more carbon dioxide into the atmosphere than they store. "By taking measurements in seagrass meadows off the coast of Florida, we could show that some of these tropical seagrass meadows absorb considerably less carbon dioxide than has long been thought," says Van Dam.

The seas swallow a great deal of carbon dioxide—approximately a quarter of the human CO2 emissions. The main role in this exchange between the atmosphere and ocean is played by dissolved carbonates. Carbonates bind the carbon dioxide from the atmosphere and store it in seawater. The more carbonate the water contains, the more carbon dioxide it can ultimately absorb. In warm tropical waters, however, metabolic processes of seagrass convert the dissolved carbonates to lime which trickles to the seafloor. This results in the loss of carbonate, which would otherwise bind carbon dioxide. "The result is that these seagrass meadows hardly bind any carbon dioxide. On the contrary, they tend to release carbon dioxide through various other biochemical processes," explains Prof. Helmuth Thomas, an expert in biochemistry.

The international team applied a novel combination of methods to build a complete carbon budget that allowed them to account for all of the CO2 produced and consumed in the ecosystem much more precisely. In the first method, they directly measured the exchange of CO2 between the water and atmosphere using an approach called "eddy covariance." With a second method, they directly measured the exchange of bicarbonate and other chemicals between the sediment and water. Lastly, they used geochemical sampling to measure the many processes in the sediments which act together to consume or produce CO2. "By linking measurements in the sediment with related measurements in the water and in the air, we were able to track and account for the important processes that drive the ecosystem toward storing or releasing CO2," says Bryce Van Dam. "We cannot rely on blue carbon offsets to counteract the CO2 that we put into the atmosphere by burning fossil fuels. Rather, we must first reduce CO2 emissions and then protect these coastal habitats for the many financial and environmental benefits they offer us, which may not always include CO2 sequestration."
more……https://phys.org/news/2021-12-seagrass-miracle-solution-climate.html

Related article
Seagrass meadows absorb less CO2 than previously thought (15 December 2021, Earth.com)
https://www.earth.com/news/seagrass-meadows-absorb-less-co2-than-previously-thought/

Decade-long plan for sea turtle and dugong conversation launched in the Kimberley (WA, Australia)

14 December 2021, National Indigenous Times

The Indigenous Salt Water Advisory Group (ISWAG) have launched a 10-year-plan for turtle and dugong conservation. The plan has been created and will be led by Indigenous saltwater managers across the Kimberley region. ISWAG Co-Chair Daniel Oades said that “both animals are culturally significant” to all relevant Native Title groups, both species remain in “healthy Country plans” for those groups, and [the] traditional knowledge of these species is immense”.

Utilising a cooperative approach where both western conservation science and Indigenous knowledge, the long-term management plan seeks to maintain healthy and sustainable populations of the two animals in Kimberley waters, aiming to ensure Indigenous livelihoods, culture and customary practices are supported. Oades made clear that this cooperation and collaboration has “come a long way in the last 10 years in bridging the gap with western science” and ensuring that “right way research” is practised. The initiative further hopes to develop foundational ecological and biological knowledge, expanding Indigenous science capacity and two-way knowledge systems. The initiative draws on the collective of nine established Kimberley saltwater Native Title groups, with backing from Western science partners.

The groups involved represent Traditional Owner groups for 90 per cent of the Kimberley coastline; Balanggarra, Wunambal Gaambera, Dambimangari, Mayala, Bardi Jawi, Nyul Nyul, Yawuru, Karajarri and Nyangumarta. ISWAG believe the initiative will act as a regionally coordinated effort towards conservation of species and habitat, enabling consistent data collection for researchers and improving efficiency of management challenges. Oades hoped that once investment comes in, the initiative can be implemented effectively to “coordinate and target effort on research and monitoring”.
more……https://nit.com.au/decade-long-plan-for-sea-turtle-and-dugong-conversation-launched-in-the-kimberley/

Manatee in critical condition rescued from Texas canal (TX, USA)

14 December 2021, mySA

On Friday, December 3, SeaWorld San Antonio conducted an emergency rescue of an adult male manatee in Texas City. The marine animal, which had strayed from its native habitat, was in critical condition when rescue teams arrived. Animal care professionals believe the animal migrated away from its usual home in search of food, which is likely more scarce due to the destruction of sea grass in Florida waters.

The creature was first spotted by a local fisherman. When the manatee was found by veterinary care it was 810 pounds — underweight for the species — and suffering from acute cold stress syndrome due to being in an atypical environment. SeaWorld, U.S. Fish and Wildlife Service (USFWS) Texas Marine Mammal Stranding Network, Texas State Aquarium, Texas Parks and Wildlife Department, Galveston Bay Foundation all worked in tandem to ensure a safe and efficient rescue of the manatee.

Currently, the manatee is receiving around-the-clock-care at SeaWorld San Antonio facilities, with assistance from experts at SeaWorld Orlando. There will be a rehabilitation period before he his released back into the wild in his native Florida.
more……https://www.mysanantonio.com/news/local/article/manatee-rescue-sea-world-san-antonio-texas-canal-16700923.php

Seagrass wasting disease is fueled by climate change (CA, USA)

13 December 2021, Earth.com

Seagrass is suffering from a wasting disease across the Pacific Northwest, and climate change is driving the destructive outbreak, according to a new study from Cornell University. Seagrass wasting disease (SWD) is particularly threatening to a temperate species known as eelgrass. In the new study, experts report that the pathogen responsible for SWD, *Labyrinthula zosterae*, is thriving in warmer ocean temperatures.

According to the study authors, the heat sensitivity of *Labyrinthula zosterae* prompts the need for a greater understanding of the impacts on host health under climate change. As the problem of seagrass wasting disease becomes increasingly widespread, the researchers have confirmed that the disease impacts eelgrass all the way down to its roots. “Not only are we seeing more seagrass wasting disease outbreaks, we’re seeing a severe impact within the vital nutrient stores of these plants in the roots – so they become compromised late in the growing season, setting them up for a harder winter,” explained study co-lead author Olivia Graham. For the investigation, the researchers marked hundreds of plants at low tide and monitored the meadow for several weeks. They found that seagrass with disease lesions grew more slowly, produced less storage sugars, and were less healthy overall.

Eelgrass plants spread vegetatively, explained Professor Harvell, noting that seagrass roots have huge systems where carbohydrates and sugars get manufactured and stored, to expand their own lush networks. “We learned that the lesioned plants had reduced starch reserves and grew more slowly, so now we can say that the wasting disease is even bigger than most thought – and the harm goes well beyond the lesions,” said study senior author Professor Drew Harvell.

more……https://www.earth.com/news/seagrass-wasting-disease-is-fueled-by-climate-change/

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Climate-driven disease compromises seagrass health (11 December 2021, Cornell Chronicle)
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Climate-related illnesses impair the health of seagrass (11 December 2021, Florida News Times)
https://floridanewstimes.com/climate-related-illnesses-impair-the-health-of-seagrass/391121/
Climate-driven disease devastates seagrass health (13 December 2021, ScienceDaily)
https://www.sciencedaily.com/releases/2021/12/211213111637.htm

Kenyan fisherfolk on the frontlines of conserving marine ecosystem amid threats (Kenya)

14 December 2021, China.org

Ahmed Abubakar has nostalgic memories of growing up at a serene village located at the edge of Kenya's coastal county of Kwale. The proud scion of a renowned fishing clan started interacting with marine life at a tender age when he accompanied older male relatives for an expedition in the deep sea to scout for tilapia.

Abubakar's pride with his fishing heritage has lately suffered an onslaught amid rapid depletion of marine habitats in the Kenyan south coast linked to climate change, pollution, and human encroachment. Currently a member of a grassroots organization that is restoring degraded mangroves and coral reefs on the shores of the Indian Ocean, Abubakar is convinced that his new calling will transform the livelihoods of local fishermen. His grassroots conservation lobby has partnered with state agencies to plant seagrass and mangrove trees, in order to boost the ecological health of fish breeding grounds.

Kenya's Ministry of Environment and Forestry has partnered with an autonomous agency, Coast Development Authority, to promote community-driven rehabilitation of degraded marine ecosystems. Mohamed Keinan, the managing director of Coast Development Authority said that mobilizing local communities to plant seagrass and mangrove trees was informed by the need to promote climate resilience, food security, and incomes. Keinan said that once the marine ecosystem in the coast region is restored to its renowned pristine form, tourism and fisheries will bounce back to life, boosting food security and foreign exchange earnings in the country.

more……http://www.china.org.cn/world/Off_the_Wire/2021-12/14/content_77928277.htm

Shark Bay's seagrass meadows could die in another major marine heatwave, scientists say (WA, Australia)

13 December 2021, ABC

Scientists say they are worried another major marine heatwave in Shark Bay could be the final nail in the coffin for seagrass meadows. In the summer of 2010–2011, a marine heatwave wiped out 1,300 square kilometres of seagrass in the World Heritage-listed Shark Bay. The heatwave had disastrous impacts on the local ecosystem, as well as the commercial fishing industry.

Mike van Keulen, a senior lecturer in marine biology at Murdoch University and director of the Coral Bay Research Station, was concerned the vitally important meadows of seagrass would not recover if heatwaves continued to occur. "We've seen very slow recovery and we're really concerned that another major heatwave would really spell the

death knell for that ecosystem," he said. This summer sees a La Niña weather pattern, as occurred last year. The Bureau of Meteorology said this ocean event increased the chance of a marine heatwave along Western Australia's coast.

The Department of Biodiversity of Conservation and Attractions (DBCA) has monitored the recovery of Shark Bay's seagrass meadows twice a year since the 2010–2011 marine heatwave. DBCA research scientist Simone Strydom said while some meadows had recovered, others had not. Ms Strydom said the seagrasses around Shark Bay were temperate, or able to grow in colder waters. Traditional owner and Malgana ranger Nick Pedrocchi has worked alongside researchers at the University of Western Australia to restore and monitor the seagrass around Shark Bay. Mr Pedrocchi said it would not be known how the seagrass was faring until around January and February 2022.
more……https://www.abc.net.au/news/2021-12-13/shark-bay-marine-heatwave-concerns/100691646

Finding hidden seagrass treasures off Donegal coast (Ireland)
13 December 2021, Donegal News

A natural resource which is considered to be more important than the rain forests has been discovered off the coast of south west Donegal. Last month, a group of local swimmers discovered a couple of outcrops of the seagrass *Zostera marina* along sheltered parts of Iniskeel island adjacent to Narin beach.

Details of the find have since been forwarded to Coastwatch Europe who were conducting a survey during the Autumn to establish the extent of seagrass off the Irish coast. “There is far too little known about your amazing Donegal coast with its hidden seagrass treasures. Next week, we will also launch our list of recommendations including a headline one of protecting seagrass where ever it occurs as it is one of the most valuable habitats for climate change mitigation and biodiversity,” Coastwatch coordinator and marine biologist Karin Dubsky added. “Thanks to the most recent finds near Ardara and another by a paddle boarder off the north Donegal coast we now think that seagrass is more prevalent in Donegal than was officially known.

“We’ve known Mulroy Bay to be an important location for seagrass but thanks to the lads who discovered it at Narin and the find off the north Donegal coast we’ll be able to include them in our updated maps,” Ms Dubsky said. Leonard Molloy, along with Paul McCrossan and Gerard McHugh, discovered the outcrops of sea grass while they were swimming around Iniskeel last month. “There are two locations, one in the Church Pool, and one along the coast facing the Church on the mainland,” Mr Molloy said.
more……https://donegalnews.com/2021/12/finding-hidden-seagrass-treasures-off-donegal-coast/

Sea grass research gives heads up on climate change (NC, USA)
08 December 2021, Spectrum News

Researchers are looking at the ecosystem of sea grass on North Carolina's coast as a way to track climate change.
more……https://spectrumlocalnews.com/nc/triad/politics/2021/12/08/sea-grass-research-at-nc-coast-gives-head-up-on-climate-change

Efforts are underway to restore seagrass habitat for Florida manatees (FL, USA)
08 December 2021, ABC Action News

Sea & Shoreline Aquatic Restoration came to Citrus County with baskets full of a seagrass snack. But what will really help the manatees they say..is their work at regrowing seagrass beds around the state. “That’s the long-term goal is to restore this habitat. Create a sustainable food source for these manatees and for all the other fish and vertebrates that depend on them," said Sea & Shoreline lead biologist Ryan Brushwood.

Sea & Shoreline says Crystal River is one of their most successful restoration projects. They’ve planted 50 acres of seagrass that’s spread to almost 200 acres around King’s Bay. It’s the lack of seagrass, especially on Florida’s east coast that’s led to more than a thousand manatee deaths this year. This seagrass supply while tasty, won’t last long. Manatees can each eat about a hundred pounds of it every day.
more……https://www.abcactionnews.com/news/region-citrus-hernando/efforts-are-underway-to-restore-seagrass-habitat-for-florida-manatees

Agencies will feed manatees in unusual bid to stem die-off (FL, USA)
08 December 2021, E&E News

A federal-state task force will feed malnourished manatees in Florida’s Indian River Lagoon in an unprecedented effort to stem a dramatic die-off of the imperiled marine mammal. As of Friday, officials said, 1,038 manatees have died this year — nearly 12 percent of the state’s total population of 8,810 animals. The Florida Fish and Wildlife Conservation Commission and the U.S. Fish and Wildlife Service have approved a number of mitigation efforts to address the manatee deaths, including feeding, rescues, carcass recoveries and field health assessments.

"Unfortunately, we still anticipate relatively high mortality along Florida's Atlantic Coast during the winter of 2021-22 due to the loss of seagrass associated with poor water quality within the Indian River Lagoon," the commission said in an email announcement. "As such and because supplemental feeding of manatees is a management action that has not been tried before, we do not know how many manatees will visit the site, or how much vegetation individual manatees will consume."

In its $7 million request, the commission was seeking $160,000 to enhance manatee rescue and mortality response, as well as $717,676 to increase capacity to rescue manatees. Biologist Patrick Rose, executive director of the Save the Manatee Club, said the decision was a long time coming. Defenders of Wildlife announced its support for the decision, but the group cautioned that this short-term solution to the mortality event doesn't address the pollution that's destroying sea grasses.
more……https://www.eenews.net/articles/agencies-will-feed-manatees-in-unusual-bid-to-stem-die-off/

Related articles
Manatees are starving in Florida, and wildlife agencies are scrambling to save them (02 December 2021, NPR)
https://www.npr.org/2021/12/02/1060439776/manatees-starving-seagrass-dying-florida
Feds dragging their feet on a plan to feed starving Florida manatees (02 December 2021, Florida Phoenix)
https://floridaphoenix.com/2021/12/02/feds-dragging-their-feet-on-a-plan-to-feed-starving-florida-manatees/
Manatees are starving in Florida. Wildlife agencies are scrambling to save them (02 December 2021, KALW)
https://www.kalw.org/npr-news/2021-12-02/manatees-are-starving-in-florida-wildlife-agencies-are-scrambling-to-save-them
Update on Manatee Unusual Mortality Event (03 Decmeber 2021, The Florida Senate
https://www.flsenate.gov/Media/PressReleases/Show/4072
US approves feeding vegetables to manatees amid Florida death toll (07 December 2021, The Gal Times)
https://thegaltimes.com/us-approves-feeding-vegetables-to-manatees-amid-florida-death-toll/11308/
Manatees, Facing a Crisis, Will Get a Bit of Help: Extra Feeding (07 December 2021, The New York Times)
https://www.nytimes.com/2021/12/07/climate/manatees-florida-feeding.html
Wildlife officials move to feed Florida's starving manatees (07 December 2021, The Washington Post)
https://www.washingtonpost.com/climate-environment/2021/12/07/manatees-florida-feeding-program/

Can Gambia Turn the Tide to Save Its Shrinking Beaches? (Gambia)
06 December 2021, PoliticSay

When Saikou Demba was a young man starting out in the hospitality business, he opened a little hotel on the Gambian coast called the Leybato and ran a beach bar on the wide expanse of golden sand. The hotel is still there, but the beach bar is not. The sea comes right up to the bottom of the terrace and splashes over the top. The erosion of the coastline is clearly visible in the cracked paving stones and exposed roots of the coconut trees. The seagrass that used to carpet the ocean floor has gone.

"Those grasses were protecting the sea, but there are no more now," says Demba. "I also used to see turtles, big turtles. Now, none. We are in a very sad situation." All along the 50-mile coastline of Gambia, Africa's smallest mainland country, hotels and guesthouses are facing similar pressures. And in a developing country where tourism makes up about 20 percent of GDP and employs tens of thousands of people, it could not be more important that they withstand them. The threat posed to the industry by the climate crisis, however, is more formidable in the long term, and no one appears to have found a solution that works for all.
more……https://politicsay.com/can-gambia-turn-the-tide-to-save-its-shrinking-beaches/

Plans for Scotland's seagrass restoration advance (Scotland, UK)
03 December 2021, Scottish Field

Scotland's first handbook for seagrass restoration has been published as trials in the innovative technique gather pace. The handbook has been developed by NatureScot in collaboration with Marine Scotland and Project Seagrass as a result of increasing interest in the potential of restoring marine habitats to store blue carbon, enhance coastal defences and increase biodiversity in our seas. The handbook provides essential information and guidance on all aspects of seagrass restoration, such as site suitability, licensing, biosecurity, techniques and monitoring.

The new seagrass restoration handbook underlines Scotland's place at the forefront of climate change action both nationally and internationally, building on the work the Scottish Government is already doing to better understand the distribution of these important marine habitats so we can best target our protection and restoration efforts. 'This includes funding for the Scottish Blue Carbon Forum for research and supporting the use of drone-based aerial survey methods to map Scotland's seagrass habitats through Project Seagrass.'

Dr Richard Lilley of Project Seagrass said: 'The loss of seagrass in the North Atlantic that has occurred over centuries now creates an opportunity for the start of a period of environmental renewal. At the start of the UN Decade on Ecosystem Restoration it is critical we design seagrass restoration projects that are based on strong, collaborative partnerships using the best available science.'
more……https://www.scottishfield.co.uk/outdoors/wildlifeandconservation/plans-for-scotlands-seagrass-restoration-advance/

WA government announce seagrass management success at Port Geographe (WA, Australia)

03 December 2021, Busselton-Dunsborough Mail

Around 100,000 cubic metres of seagrass has been removed from Port Geographe and the beach is now ready for summer. The City of Busselton and the Department of Transport worked together to remove the seagrass along the 1.5 kilometre stretch of coastline since July 2021. From late July earthmoving equipment was used to breakdown compact accumulations of wrack and push it to the water line prior to westerly winds and storms encouraging dispersal by waves and currents and assisting the natural flow.

Transport minister Rita Saffioti said the success on Western Beach follows the pumping of 20,000 cubic metres of sand from an offshore disposal area back in March 2021. Both measures were key recommendations of the Port Geographe Technical Working Group, formed to assess the performance of the reconfigured coastline and improve performance.

The department will continue to work closely with the City and the community to manage the coastline at Port Geographe and Wonnerup delivering benefits for property owners and users. South West MLC Jackie Jarvis said the seawrack at Port Geographe was well known and would virtually turn the beautiful beach unusable.

more……https://www.busseltonmail.com.au/story/7537066/port-geographe-beach-opens-for-the-summer/

Related article

Beach at Port Geographe ready for summer (03 December 2021, Mirage News)

https://www.miragenews.com/beach-at-port-geographe-ready-for-summer-686580/

Protecting precious marine habitats together (England, UK)

01 December 2021, GOV.UK

From 17 December 2021, the Marine Management Organisation (MMO) is introducing a phased voluntary approach for the management of anchoring in Studland Bay Marine Conservation Zone (MCZ). This will give recreational boaters in Studland Bay time to explore alternatives to anchoring in sensitive areas of the MCZ - such as the use of advanced mooring systems. From 1 June 2022, the area will be increased to cover the majority of seagrass beds to form a permanent voluntary no anchor zone.

Following the feedback from stakeholders, and advice from Natural England, MMO decided that the voluntary no-anchor zone would be put in place in the seagrass beds to reduce the damage caused by dropping and weighing anchors. Michael Coyle, Director of Operations at MMO, said “Working together with the boating community on this voluntary approach will lead to better protection for the site and the important habitats and species in the Studland Bay MCZ.

We recognise the importance of Studland Bay MCZ for recreational activities and have engaged with local interest groups, coastal forums, recreational boaters and scientific advisors to develop this plan to help protect the area from the impacts of anchoring.”

more……https://www.gov.uk/government/news/protecting-precious-marine-habitats-together

Related article

Safe haven (02 December 2021, Oceanographic Magazine)

https://www.oceanographicmagazine.com/features/spiny-seahorse-studland-bay/

CONFERENCES

14th International Seagrass Biology Workshop (ISBW14) (Annapolis, 07-12 August 2022)

Theme: " Signs of Success "

The International Seagrass Biology Workshop (ISBW) is the only international meeting specifically tailored to seagrass scientists, professionals and students. The International Seagrass Biology Workshop (ISBW) provides an excellent opportunity for the scientists working on various aspects of seagrass ecosystems to come together and discuss their latest findings.

The ISBW14 Chesapeake Bay will be held in Summer 2022 at the Graduate Annapolis Hotel, Annapolis, Maryland. This will be the first time ISBW has been hosted in the U.S.A. and the iconic Chesapeake Bay is the logical setting. Chesapeake Bay is an iconic estuary with a strong scientific and management history. The resurgence of seagrasses (including brackish water submersed aquatic vegetation) in the bay is the largest documented in the world, and clearly a "sign of success" to inspire seagrass scientists globally.

More information:

To get important updates, visit: https://isbw14.org/

Follow on Facebook @ISBW14, twitter @ISBW14 , Instagram @isbw14 #isbw14

58th Australian Marine Science Association conference (AMSA 2022) (Cairns, Australia, 07-11 August 2022)

Theme: " Change and Connections "

The annual Australian Marine Science Association conference (AMSA 2022) will enable you to share new experiences and advancements in knowledge and practice. The theme for the conference is to emphasize important linkages among environmental, ecological and social systems at a time characterised by rapid change across all these areas.

More information:

To get important updates, visit: https://www.amsa2022.amsa.asn.au/

15th International Coral Reef Symposium (ICRS 2022) (Bremen, Germany, 03-08 July 2022).

Theme: Tackling the Challenging Future of Coral Reefs

The ICRS is the leading global conference on coral reef science, management and conservation, sanctioned every 4 years by the International Coral Reef Society (ICRS). ICRS 2022 follows the success of the 14th ICRS Virtual event that was held in July 2021, and will be the key event to develop science-based solutions addressing the present and future challenges of coral reefs, which are globally exposed to unprecedented anthropogenic pressures. The five-day program will present the latest scientific findings and ideas, provide a platform to build the essential bridges between coral reef science, conservation, politics, management and the public, and will promote public and political outreach.

Key Themes which include seagrass ecosystems:

Theme 3: Ecosystem functions and services
Theme 6: Unexplored and unexpected reefs
Theme 9: Global and local impacts
Theme 10: Organismal physiology, adaptation and acclimation

More information:

To get important updates, visit: https://www.icrs2022.de/

SEAGRASS-WATCH PUBLICATIONS:

Seagrass ecosystems of the Pacific Island Countries and Territories: A global bright spot

L.J. McKenzie, R.L. Yoshida, J.W. Aini, S. Andréfouet, P.L. Colin, L.C. Cullen-Unsworth, A.T. Hughes, C.E. Payri, M. Rota, C. Shaw, P.A. Skelton, R.T. Tsuda, V.C. Vuki, R.K.F. Unsworth

Seagrass ecosystems exist throughout Pacific Island Countries and Territories (PICTs). Despite this area covering nearly 8% of the global ocean, information on seagrass distribution, biogeography, and status remains largely absent from the scientific literature. We confirm 16 seagrass species occur across 17 of the 22 PICTs with the highest number in Melanesia, followed by Micronesia and Polynesia respectively. The greatest diversity of seagrass occurs in Papua New Guinea (13 species), and attenuates eastward across the Pacific to two species in French Polynesia. We conservatively estimate seagrass extent to be 1446.2 km2, with the greatest extent (84%) in Melanesia. We find seagrass condition in 65% of PICTs increasing or displaying no discernible trend since records began. Marine conservation across the region overwhelmingly focuses on coral reefs, with seagrass ecosystems marginalised in conservation legislation and policy. Traditional knowledge is playing a greater role in managing local seagrass resources and these approaches are having greater success than contemporary conservation approaches. In a world where the future of seagrass ecosystems is looking progressively dire, the Pacific Islands appears as a global bright spot, where pressures remain relatively low and seagrass more resilient.

https://www.seagrasswatch.org/mckenzie-et-al_2021b-2/

Seagrass ecosystem contributions to people's quality of life in the Pacific Island Countries and Territories

L.J. McKenzie, R.L. Yoshida, J.W. Aini, S. Andréfouet, P.L. Colin, L.C. Cullen-Unsworth, A.T. Hughes, C.E. Payri, M. Rota, C. Shaw, R.T. Tsuda, V.C. Vuki, R.K.F. Unsworth

Seagrass ecosystems provide critical contributions (goods and perceived benefits or detriments) for the livelihoods and wellbeing of Pacific Islander peoples. Through in-depth examination of the contributions provided by seagrass ecosystems across the Pacific Island Countries and Territories (PICTs), we find a greater quantity in the Near Oceania (New Guinea, the Bismarck Archipelago and the Solomon Islands) and western Micronesian (Palau and Northern Marianas) regions; indicating a stronger coupling between human society and seagrass ecosystems. We also find many non-material contributions historically have been overlooked and under-appreciated by decision-makers. Closer cultural connections likely motivate guardianship of seagrass ecosystems by Pacific communities to mitigate local anthropogenic pressures. Regional comparisons also shed light on general and specific aspects of the importance of seagrass ecosystems to Pacific Islanders, which are critical for forming evidence-based policy and management to ensure the long-term resilience of seagrass ecosystems and the contributions they provide.

https://www.seagrasswatch.org/mckenzie-et-al_2021a-2/

SEAGRASS-WATCH on YouTube

Seagrass: Pastures of the sea *http://www.youtube.com/watch?v=66Y5vgswj20* or https://www.seagrasswatch.org/podsnmore/
Presentation on what seagrasses are and why they are important (over 53,030 views to date)

Global distribution of seagrass meadows *https://www.youtube.com/watch?v=OPbmam_sitk*

Presentation on scientific paper examining the global distribution of seagrass meadows by McKenzie, Nordlund, Jones, Cullen-Unsworth, Roelfsema and Unsworth *https://doi.org/10.1088/1748-9326/ab7d06*

SEAGRASS & OTHER MATTERS

World Seagrass Day http://wsa.seagrassonline.org/world-seagrass-day/
A global campaign for World Seagrass Day: Raising public awareness on the importance of seagrass meadows is central to efforts in the protection and conservation of seagrass meadows worldwide. The international seagrass research and conservation community, together with the undersigned, call on the United Nations to declare a World Seagrass Day to recognize the importance of seagrass meadows to the health and well-being of the planet, as well as the people, communities, flora, and fauna that rely on them. Show your support by signing the petition.

SeagrassSpotter https://seagrassspotter.org/
SeagrassSpotter seeks to expand the number of people studying seagrass from a handful of scientists to hundreds and potentially thousands of 'citizen scientists.'. As part of efforts to build a sustainable monitoring network, and by leveraging the enthusiasm of everyone from fishers to SCUBA divers to people on vacations at the beach, we'll create a more comprehensive picture of seagrass meadows around the globe. This in turn will inspire new scientific research and practical conservation measures that can help protect ocean habitats. Working together with citizen scientists all over the world, we'll accomplish big things for seagrass and other vulnerable marine species, but only with your help.

World Seagrass Association http://wsa.seagrassonline.org
Keep up to date on what's happening with the around the world from the WSA. The World Seagrass Association is a global network of scientists and coastal managers committed to research, protection and management of the world's seagrasses. WSA members come from many countries and include leading scientists in marine and seagrass biology. The association supports training and information exchange and raises global awareness of seagrass science and environmental management issues.

World Seagrass Association on Twitter @Seagrass_WSA
Everything seagrass related. World Seagrass Association official account. Follow to stay up-to-date with global seagrass info. Moderator: LM Nordlund

Dugong & Seagrass Research Toolkit http://www.conservation.tools/
Dugongs and seagrass are under threat from human activities. By using this Toolkit you should be able to gather information to:
understand better the status of dugongs, seagrass and communities at your research site;
understand threats to dugongs and seagrasses and help find solutions to those threats;
understand the communities that value or may affect dugongs and seagrasses.

The toolkit will guide you to the techniques and tools most suitable to your team capacity, budget and timeline. By using the toolkit, you will also be helping to standardise data sets and methods across different countries and sites, allowing for better comparison of global dugong and seagrass conservation status. The Toolkit is designed for use by marine natural resource managers and decision-makers (government and non-government) and for dugong and seagrass researchers. The Toolkit will assist organisations to assess funding proposals by describing the scope of work, choice of techniques and tools, and budget.

FROM HQ

Past E-bulletins *https://www.seagrasswatch.org/ebulletin/*
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Seagrass-Watch E- Bulletin is compiled by Len McKenzie & Rudi Yoshida.